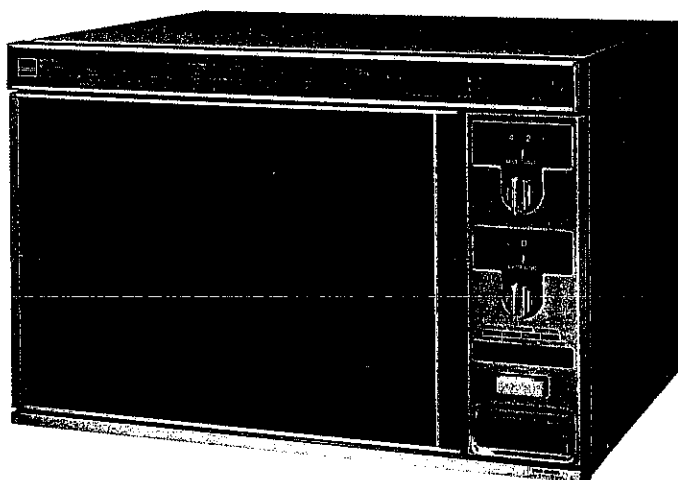




Service Manual

SHARP MICROWAVE OVEN R-8200E



In the interests of user-safety the set should be restored to its original condition and only parts identical to those specified used.

SHARP CORPORATION OSAKA, JAPAN

SERVICE MANUAL

SHARP

R-8200E

FOREWORD

This service manual is prepared to provide Sharp service personnel with complete service information on Sharp Microwave Oven.

Basic, general information for Sharp Microwave Ovens is given in the GENERAL service manual.

Therefore, to permit them to give satisfactory customer service, it is recommended that service personnel first study the entire text of GENERAL manual, and then carefully study this book.

CAUTION

MICROWAVE RADIATION

Personnel should not be exposed to the microwave energy which may radiate from the magnetron or other microwave generating devices if it is improperly used or connected.

All input and output microwave connections, waveguides, flanges, and gaskets must be secured.

Never operate the device without a microwave energy absorbing load attached.

Never look into an open waveguide or antenna while the device is energized.

SHARP CORPORATION
OSAKA, JAPAN

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CHAPTER I **PRODUCT DESCRIPTION**

SPECIFICATIONS

ITEMS	DESCRIPTION
Power requirement	220/240V (decided with a rating plate) 50Hz Single phase, 3 wire earthed
Power consumption	1.4kW
Microwave output power	600W (2 litre water load)
Browning output power	1.3kW
Case dimensions Width Height Depth	600mm 420mm including feet 510mm including cord holder and excluding door open lever
Cooking cavity dimensions Width Height Depth	380mm 220mm with tray installed 390mm
Control Complement	Cook Switch 36 min. Dual speed timer (Microwave timer) 24 min. Single speed timer (Browner timer) Variable Cooking Mode Selector Repetition Rate: Full Power ... Full power through out the cooking time. Defrost 9 sec. ON, 21 sec. OFF, 30% of full power Simmer 15 sec. ON, 15 sec. OFF, 50% of full power Roast 21 sec. ON, 9 sec. OFF, 70% of full power
Browner Adjustable Height System	Yes
Weight	Approx. 42kg

CHAPTER II

OPERATION

NORMAL COOKING SEQUENCE

To start cooking;

Microwave

1. Turn the main switch ON.
(Continental Europe and South African Models only.)
2. Set the browner position control knob fully to the left.
Now the browner heater is placed at the highest position.
3. Place the food to be cooked in the oven and close the door firmly.
4. Set the variable cooking mode selector for a desired position.
5. Set the microwave timer for a desired cooking time.
The oven light will come on and the fan motor will rotate immediately.
6. Depress the cook button. The microwave indicator light will glow to indicate that the oven is in the microwave cooking cycle, and the turntable motor and vari-motor will operate.
7. At the end of the microwave cooking cycle (microwave timer returns to "0"), the indicator light will go out and the timer bell will ring once. The oven will stop supplying the microwave energy.

Browning

1. Turn the main switch ON.
(Continental Europe and South African Models only.)
2. Set the browner position control knob to fully left, and open the door.
3. Place the food to be heated in the oven and close the door firmly.
4. Select the browner control knob for a desired position.
5. Be sure the microwave timer is at "0" position and set the browner timer for a desired cooking time. At this time the oven light will come on and the fan motor will rotate immediately.

6. Depress the cook button. The browner indicator light will glow to indicate that the oven is in the browning cycle and turntable motor will operate.
7. At the end of the browning cycle, the timer signal bell will ring once and the heater will turn off.
8. To open the door, the browner position control knob has to be placed fully to the left.

- Notes:
1. The door cannot be opened without setting the browner heater at the highest position.
 2. If the oven door is opened during the cooking operation, the oven will go out of the cook cycle and the timer will stop. This is done so the exact cooking time remains on the timer. To restore cooking operation, the door must be closed and cook button must be depressed.
 3. When both the microwave timer and the browner timer are set, the oven will supply the microwave energy first. In this case the browning heater will turn on when the microwave timer returns to "0".
 4. One or both timers can be set;
 - A) If microwave cooking is desired, set only the microwave timer and depress the cook button.
 - B) If microwave cooking is desired first and browning immediately after, set both timers for the desired times.
MICROWAVE COOKING ALWAYS TAKES PLACE FIRST WHEN BOTH TIMERS ARE SET.
 - C) If browning is desired first and then microwave cooking, set only browner timer. The microwave timer should be set after browning cycle is completed.

DESCRIPTION OF OPERATING SEQUENCE

The following is a complete description of component functions during the three stages of oven operation.

Note: The following operations are refer to the Continental Europe Model and the others are quite similar in each model.

OFF CONDITION

With the main switch turned on, the timer at "0" position and the door closed, no component in the oven will operate. But the oven light will turn on when the door is opened.

IDLE CONDITION

Closing the door activates both interlock switches; primary interlock (upper latch) switch and secondary interlock (lower latch) switch.

Selecting a cooking time closes the microwave or/and browner timer contacts leading to the oven light and fan motor therefore the oven light turn on and the fan motor rotates.

COOKING CONDITION

MICROWAVE COOKING CONDITION

The followings are the complete microwave cooking operation; (Figure 1.)

A. Full Power Condition

When the variable cooking mode selector is set fully right ("Full Power" position) and the cook switch is depressed, the following operation occurs;

- A-1. The turntable motor, microwave timer motor, microwave indicator light and vari-motor are energized.
- A-2. The surge limiting relay is energized through the vari-switch.
- A-3. The 220 volts A.C. is supplied to a primary winding of the power transformer through the vari-switch and surge limiting relay contacts (15)-(16).
- A-4. The power transformer converts 3.2 volts A.C. output on the filament winding and approximately 2400 volts A.C. on the high voltage winding.
- A-5. The 3.2 volts A.C. output from filament winding heats the magnetron filament.
- A-6. The 2400 volts A.C. output from the secondary winding is sent to a voltage doubler circuit consisting of a high voltage capacitor and a silicon rectifier.
The 2400 volts A.C. is converted to approximately 4000 negative D.C. voltage (peak to peak) by the voltage doubler circuit and sent to the magnetron assembly.
- A-7. The negative 4000 volts D.C. is applied to the cathode of the magnetron tube. This causes it to oscillate and produce a 2450 MHz cooking frequency.
- A-8. The RF energy produced by the magnetron tube is channeled through a waveguide into the cavity feedbox, and then into the cavity where the food is placed to be heated.
- A-9. Upon completion of the selected cooking time, the timer bell rings once and the timer switch is deactivated. The oven is reverted to the off condition.

B. Defrost, Simmer and Roast Condition

When the cook switch is depressed and the variable cooking mode selector is set to "DEFROST", "SIMMER" or "ROAST" position, the following operation occurs;

B-1. Above A-1, A-2 and A-3 operations occur.

B-2. The vari-motor rotates at (2) r.p.m. In case the mode selector is set at "DEFROST", the 220 volts A.C. is supplied intermittently to the surge limiting relay through the vari-switch and the power transformer through the vari-switch and surge limiting relay contacts (15)-(16).

The vari-switch is operated, at a 9 seconds ON and 21 seconds OFF repetition rate, by means of the cam provided on the vari-motor shaft.

The repetition rate for others are as follows;

SIMMER: 15 seconds ON, 15 seconds OFF

ROAST: 21 seconds ON, 9 seconds OFF

B-3. The 3.2 and 2400 volts A.C. outputs are converted while the 220 volts A.C. is supplied to the power transformer.

B-4. Then above A-5, A-6, A-7, A-8 and A-9 operations occur.

BROWNING CONDITION

When the browner timer is set and the cook switch is depressed, the following operation occurs;

- 2-1. The turntable motor, browner timer motor and browner indicator light are energized.
- 2-2. The 220 volts A.C. is supplied to the browning element.
- 2-3. Upon completion of the selected cooking time, the timer bell rings once as the timer switch is deactivated and the oven reverts to the off condition.

Note: When both microwave and browner timers are set, microwave energy is produced first. In this case, the browning element will be activated when the microwave timer returns to "0" position.

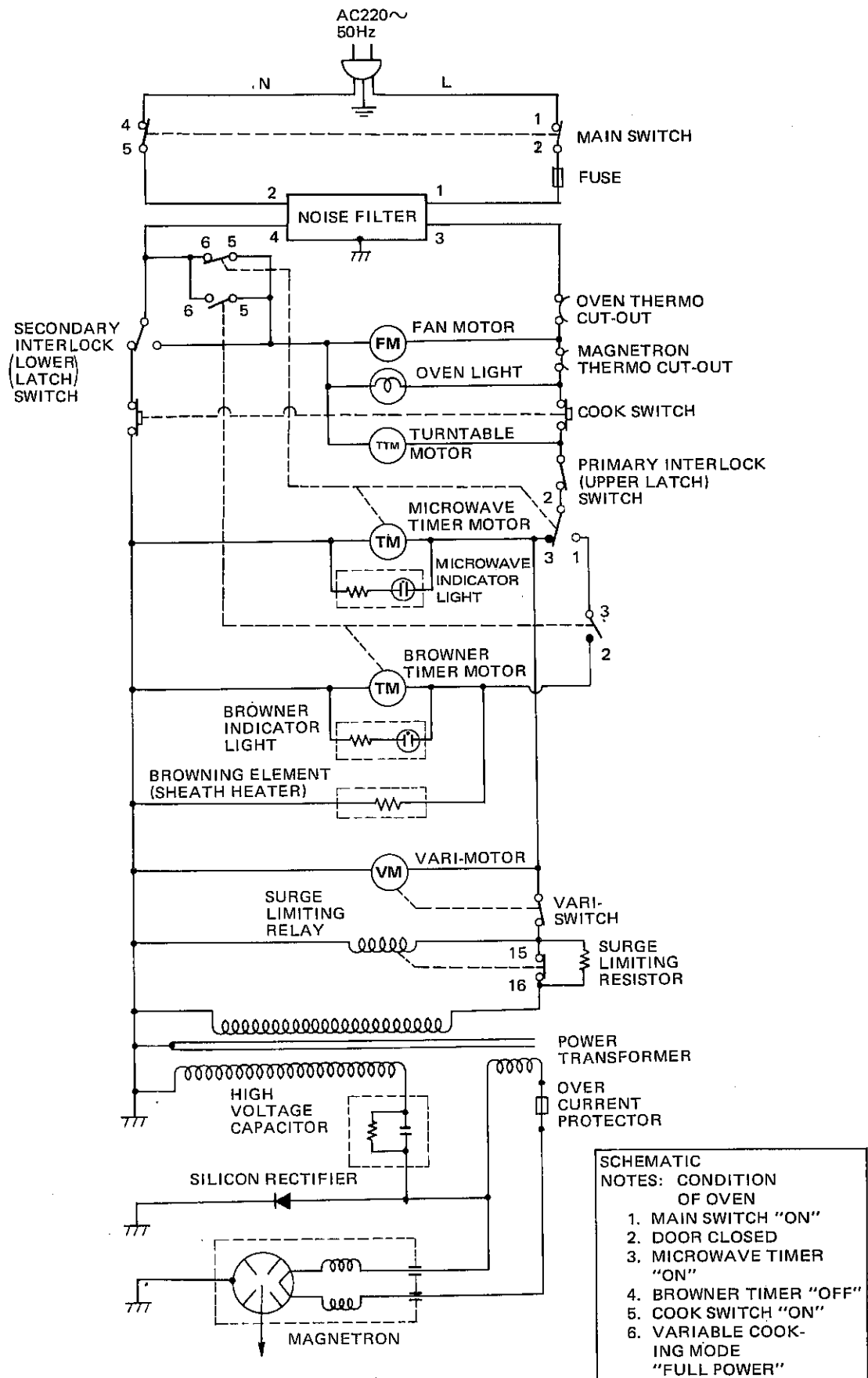


Figure 1. Oven Schematic – Cooking Condition
(Continental Europe Model)

PROBLEM	POSSIBLE CAUSE	TEST PROCEDURE OR CORRECTION
COOKING CONDITION		
Turntable motor does not operate with cook switch depressed.	Defective turntable motor.	Replace.
	Defective oven thermo cut-out.	Procedure 5.
	Defective magnetron thermo cut-out.	Procedure 5.
	Defective cook switch.	Replace.
	Open or loose wire connection to the above components.	Check wiring.
Browner indicator light does not light and no heating, but turntable motor operates. (Microwave timer is at "0" position)	Defective primary interlock switch.	Procedure 3.
	Defective microwave timer switch contacts.	Procedure H on GENERAL.
	Defective browner timer switch contacts.	Procedure H on GENERAL.
	Open or loose wire connections to the above components.	Check wiring.
Browning element does not operate, but the browner indicator light operates.	Defective browning element.	Procedure 8.
	Open or loose wire connection.	Check wiring.
Browning cycle operates normally, but microwave cooking cycle does not operate properly. (Variable cooking mode selector is at "FULL POWER" position.)	Defective microwave timer switch contacts.	Procedure H on GENERAL.
	Defective vari-switch.	Procedure 6.
	Defective power transformer.	Procedure 2.
	Defective magnetron assembly.	Procedure 1.
	Defective surge limiting relay.	Procedure 9.
	Open or loose wire connection to the above components.	Check wiring.
Microwave cooking cycle operates normally when the mode selector is set at "FULL POWER" position, but not in any other mode.	Defective vari-motor.	Procedure 7.
	Open or loose wire connection.	Check wiring.
	Defective variable cooking mechanism.	Check.
Oven goes into microwave (browning) cooking cycle, but microwave (browner) timer does not time out.	Defective microwave (browning) timer.	Procedure H on GENERAL.
	Open or loose wire connection.	Check wiring.
Oven goes into cook cycle, but extremely uneven heating is produced in oven load.	Turntable motor does not operate.	Replace the motor or check wiring.
Oven goes into cook cycle, but the microwave or browner indicator light does not light.	Defective light.	Replace.
	Open or loose wire connection.	Check wiring.
Oven goes into cook cycle, but shuts down before end of the cycle.	Defective magnetron (oven) thermo cut-out.	Procedure 5.
	Open or loose wire connection.	Check wiring.

TEST PROCEDURES

PROCEDURE NUMBER	COMPONENT TEST
1	<u>MAGNETRON ASSEMBLY</u> HIGH VOLTAGES ARE PRESENT DURING THE COOK CYCLE, SO EXTREME CAUTION SHOULD BE OBSERVED. DISCHARGE THE HIGH VOLTAGE CAPACITOR BEFORE TOUCHING ANY OVEN COMPONENTS OR WIRING. To test for an open filament, isolate the magnetron from the high voltage circuit. A continuity check across the magnetron filament leads should indicate less than 1 ohm. To test for a shorted magnetron, connect the ohmmeter leads between the magnetron filament leads and chassis ground. This test should indicate an infinite resistance. If there is little or no resistance, the magnetron is grounded and must be replaced. Power output of the magnetron can be measured by means of a water temperature rise test. This test should only be used if the preceding test does not indicate a faulty magnetron and there is no defect on the following components or wiring: silicon rectifier, high voltage capacitor and power transformer. Refer to Microwave Output Power Measurement in GENERAL SERVICE MANUAL on pages 6 and 7.
2	<u>POWER TRANSFORMER TEST</u> DISCHARGE THE HIGH VOLTAGE CAPACITOR BEFORE TOUCHING ANY OVEN COMPONENTS OR WIRING Disconnect the primary input terminals and measure the resistance with an ohmmeter. Check for the continuity of the coils with an ohmmeter. On the RX1 scale, the resistance of the primary coil should be approximately 1 ohm and the resistance of high voltage coil should be approximately 77 ohms, and the resistance of filament coil should be approximately 1 ohm. With 220/240 volts A.C. applied to the primary winding, the voltage across the filament winding should be approximately 3.2 volts A.C. (HIGH VOLTAGES ARE PRESENT TO HIGH VOLTAGE TERMINAL, SO EXTREME CAUTION SHOULD BE OBSERVED.)

TEST PROCEDURES (CONT'D)

PROCEDURE NUMBER	COMPONENT TEST
3	<u>PRIMARY INTERLOCK SWITCH (UPPER LATCH SWITCH) TEST</u> The primary interlock switch can be checked with an ohmmeter. Isolate the switch and then connect the meter leads to the common (COM.) and normally open (N.O.) terminals of the switch. The meter should indicate an open circuit with the door opened and the closed circuit with the door closed. In case improper operation is indicated, make the necessary switch adjustment or replace the defective switch. See adjustment procedure on page 22.
4	<u>SECONDARY INTERLOCK SWITCH (LOWER LATCH SWITCH) TEST</u> Isolate the switch and connect the ohmmeter leads to the common (COM.) and normally open (N.O.) terminals of the switch. The meter should indicate an open circuit with the door opened and a closed circuit with the door closed. When the meter leads are connected to the common (COM.) and normally closed (N.C.) terminals of the switch, it should indicate a closed circuit with the door opened and an open circuit with the door closed. In case improper operation is indicated, make the necessary switch adjustment or replace the defective switch. See adjustment procedure on page 22.
5	<u>THERMO CUT-OUT TEST</u> A continuity check across the thermo cut-out should indicate a closed circuit unless the temperature of the thermo cut-out reaches approximately 104°C. The thermo cut-out resets automatically at approximately 79°C. An open thermo cut-out indicates over heating of the magnetron assembly (or oven cavity). Check for restricted air flow to the magnetron (or oven cavity) through the opening in the chassis, especially the cooling duct and air intake.
6	<u>VARI-SWITCH TEST</u> The vari-switch is activated by the cam lever and cam. When the variable cooking mode selector is set at "FULL POWER" position, the cam is placed far away from the cam lever. In this condition, the vari-switch is turned ON by a spring action of the cam lever. The vari-switch can be checked with an ohmmeter. When the meter leads are connected to the common (COM.) and normally open (N.O.) terminals of the switch, it should indicate a closed circuit with the cam lever released and an open circuit with the cam lever depressed. If improper operation is indicated, make the necessary adjustment on the mode selector assembly or replace the defective switch.
7	<u>VARI-MOTOR TEST</u> The vari-motor rotates at two (2) r.p.m. Check if 220/240 volts is present between the motor terminals. If voltage is present, but the motor does not turn, replace the motor. If no voltage is present, check for loose or broken wire connections.
8	<u>BROWNING ELEMENT TEST</u> - Disconnect heater leads and measure the resistance with an ohmmeter. On the RX1 scale, the resistance between the heater leads should be approximately 37 ohms at Continental Europe and South African Models, and approximately 44 ohms at Australian and U.K. Models. - Disconnect heater leads and measure the insulation resistance with 500V-100MΩ insulation resistance meter. The insulation resistance between heater lead and cavity should be more than 0.4MΩ.

TEST PROCEDURES (CONT'D)

PROCEDURE NUMBER	COMPONENT TEST
9	<u>SURGE LIMITING RELAY TEST</u> Disconnect the wire leads from relay coil terminals (A) and (B). A continuity check of the surge limiting relay coil should indicate approximately 3000 ohms. Check if there is a continuity between the contacts (15) and (16) of relay with the relay plunger depressed. If the relay is defective, check the surge limiting resistor at the same time.

CHAPTER IV

COMPONENT REPLACEMENT AND ADJUSTMENT PROCEDURES

WARNING: to avoid possible exposure to microwave energy;

A. Before operating the oven;

1. Make sure that unlatching and opening the door slowly is accompanied by a click indicating actuation of the interlock switches.
2. Check visually the door seal for arcing and damage.

B. Do not operate the oven until after repair if any of the following conditions exist;

1. Door does not close firmly against the front of appliance.

2. There is a broken door hinge or support.

3. The door gasket or seal is damaged.

4. The door is bent or warped.

5. There is any defective parts in the interlock, oven door or microwave generating and transmission assembly.

6. There is any other visible damage to the oven.

C. Do not operate the oven;

1. Without the RF gasket.

2. If the waveguide and oven cavity are not intact.

3. If the door is not closed.

OUTER CASE REMOVAL

To remove the outer case, refer to Figure 5 and proceed as follows:

1. Disconnect the oven from the power supply.
2. Remove the screws from the rear and along the side edges of the case.
3. Slides the entire case back about 3cm to free it from the retaining clips on cavity face plate.

4. Lift the entire case from the unit.

CAUTION: DISCHARGE THE HIGH VOLTAGE CAPACITOR BEFORE TOUCHING ANY OVEN COMPONENTS OR WIRING.

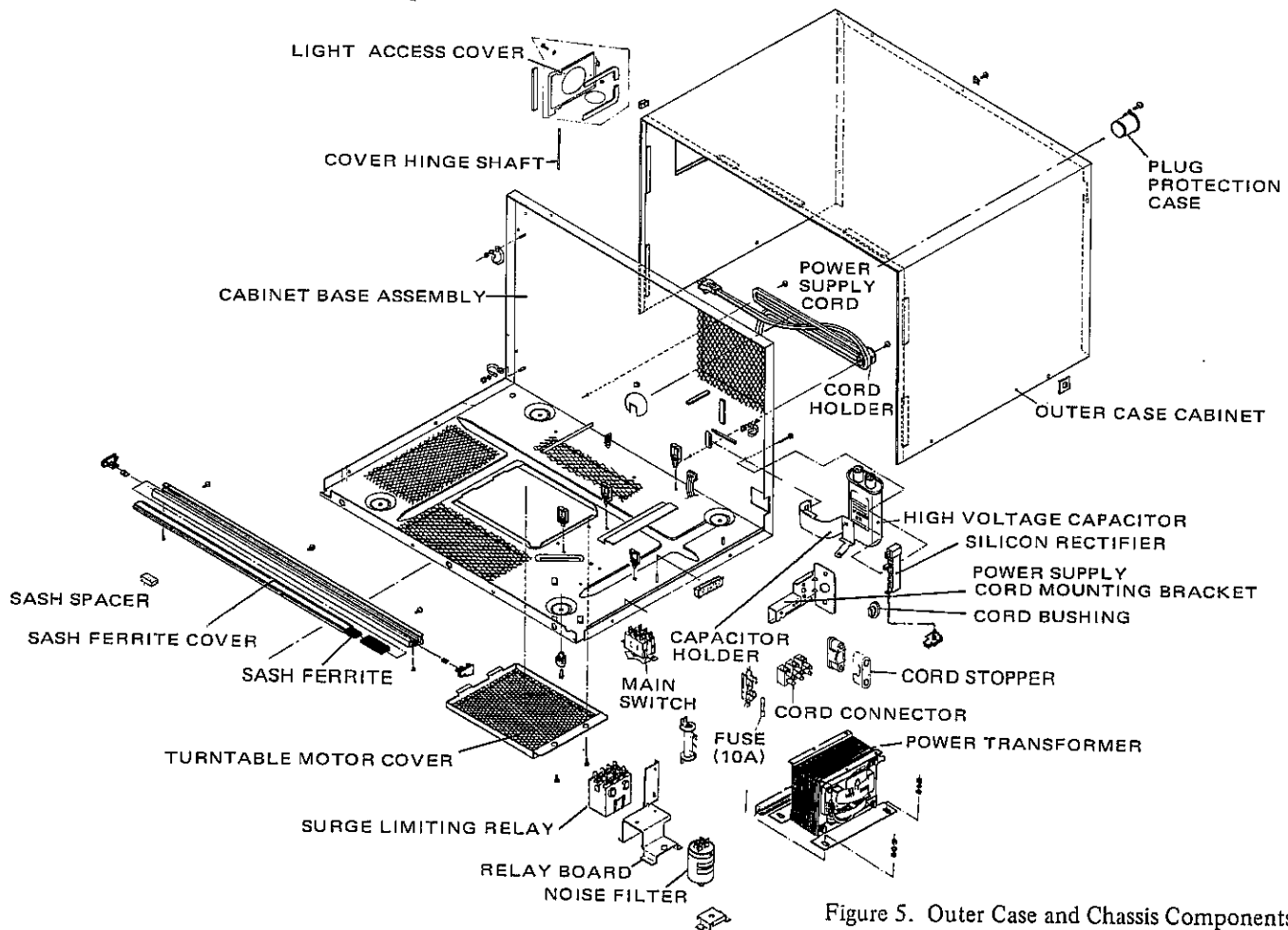


Figure 5. Outer Case and Chassis Components

TURNTABLE MOTOR REMOVAL

1. Disconnect the oven from the power supply.
2. Remove the two (2) screws holding the turntable motor cover to the bottom side of the chassis base.
3. Remove the turntable motor cover.
4. Disconnect the wire leads from the turntable motor.
5. Remove the four (4) screws and nuts holding the turntable motor to the oven cavity bottom.
6. Remove the turntable motor.

FAN MOTOR REMOVAL

1. Disconnect the oven from the power supply and remove the outer case.
2. Discharge the high voltage capacitor.
3. Disconnect the wire leads from the fan motor.
4. Remove the three (3) screws holding the fan motor mounting bracket to the cooling duct "A".
5. Remove the fan motor assembly.
6. Remove the fan blade with the fan retainer clip attached.
7. Remove the two (2) screws and nuts holding the fan motor to the bracket.
The fan motor is now free.

HIGH VOLTAGE CAPACITOR REMOVAL

1. Disconnect the oven from the power supply and remove the outer case.
2. Discharge the high voltage capacitor.
3. Disconnect the wire leads from the capacitor.
4. Remove the single (1) screw holding the capacitor and the rectifier to the back cabinet.
5. Remove the capacitor.

SILICON RECTIFIER REMOVAL

1. Disconnect the oven from the power supply and remove the outer case.
 2. Discharge the high voltage capacitor.
 3. Disconnect the wire leads from the rectifier.
 4. Remove the single (1) screw holding the rectifier to the back cabinet.
 5. Remove the rectifier from the back cabinet.
 6. Remove the single (1) screw holding the grounding wire lead to the rectifier. The rectifier is now free from the unit.
- Note: The earthing wire lead must be secured firmly with a screw to the new rectifier.

POWER TRANSFORMER REMOVAL

1. Disconnect the oven from the power supply and remove the outer case.
2. Discharge the high voltage capacitor.
3. Disconnect the wire leads from the power transformer.
4. Disconnect the secondary wire leads of power transformer from the magnetron and silicon rectifier.
5. Remove the two (2) screws holding the power transformer to the chassis base.
6. Take out the power transformer.

OVEN THERMO CUT-OUT REMOVAL

1. Disconnect the oven from the power supply and remove the outer case.
2. Discharge the high voltage capacitor.
3. Disconnect the wire leads from the thermo cut-out.
4. Remove the two (2) screws and two (2) nuts holding the thermo cut-out to the oven cavity.
5. Remove the thermo cut-out from the unit.

MAGNETRON ASSEMBLY REMOVAL

1. Disconnect the oven from the power supply and remove the outer case.
2. Discharge the high voltage capacitor.
3. Remove the two (2) screws holding the cooling duct "C" to the magnetron assembly.
4. Remove the two (2) screws holding the cooling duct "B" to the magnetron assembly and cooling duct "A".
5. Disconnect the wire leads from the primary terminal of the power transformer.
6. Remove the cooling duct "B" from the unit.
7. Carefully loosen the four (4) mounting nuts holding the magnetron assembly to the waveguide while supporting the magnetron assembly from below.
8. Lower the magnetron assembly until the tube is clear of the waveguide.
9. Remove the magnetron assembly from the unit.
10. Disconnect the filament wire leads from the magnetron.
11. Remove the magnetron thermo cut-out by loosening the two (2) mounting screws.
The magnetron is now free.

CAUTION: WHEN REPLACING THE MAGNETRON, BE SURE THE R.F. GASKET IS IN PLACE AND MOUNTING NUTS ARE TIGHTENED SECURELY.

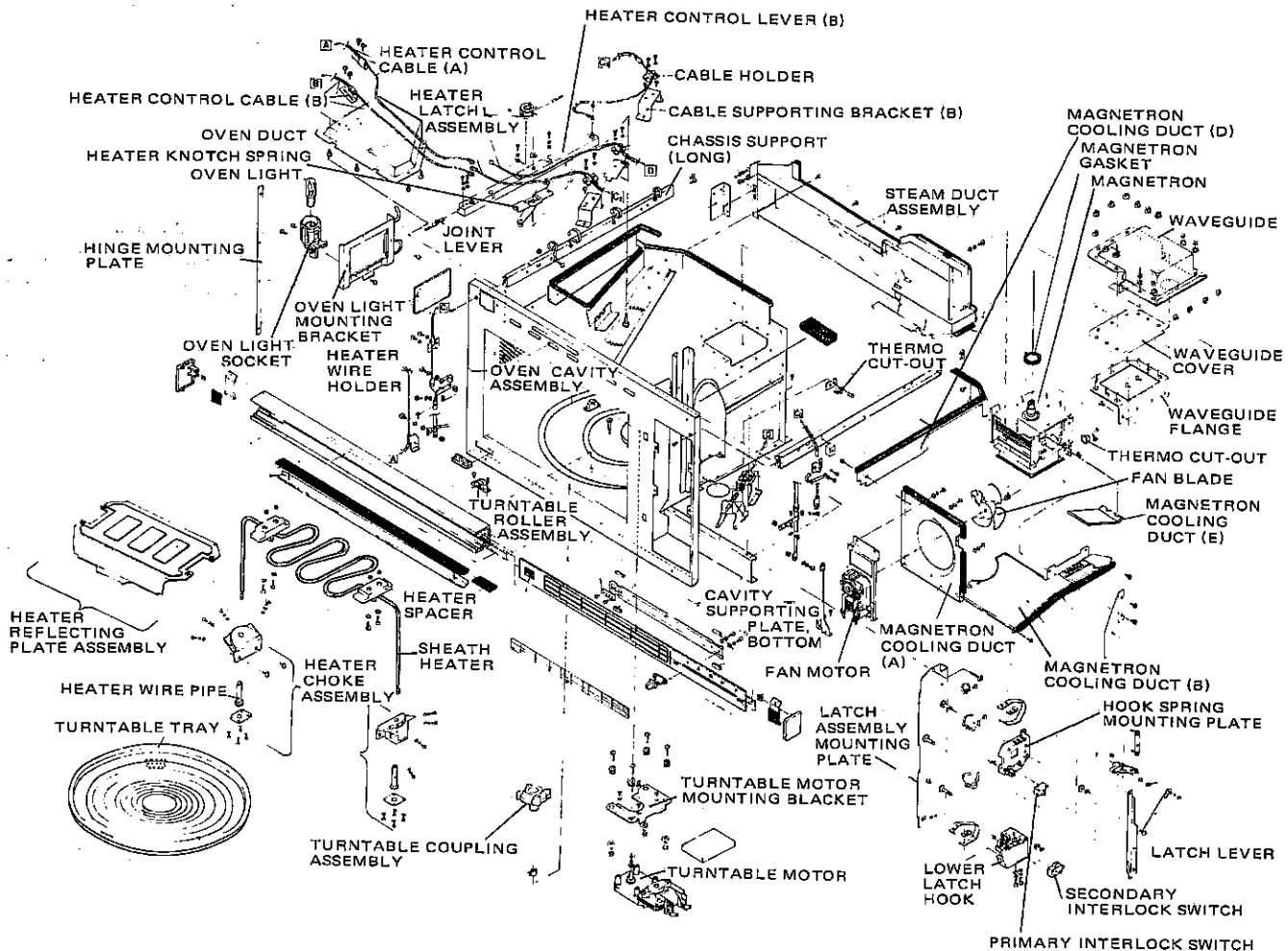


Figure 6. Oven Cavity Components

VARI-MOTOR REMOVAL

1. Disconnect the oven from the power supply and remove the outer case.
2. Discharge the high voltage capacitor.
3. Disconnect the vari-motor wire leads from the microwave timer, and release the wire leads from the wire holder.
4. Remove the fan motor. (Refer to Fan Motor Removal)
5. Remove the two (2) screws holding the motor to the select lever bracket.
6. Slide the motor backward and remove it from the bracket.

VARI-SWITCH REMOVAL

1. Disconnect the oven from the power supply and remove the outer case.
2. Discharge the high voltage capacitor.
3. Disconnect the wire leads from the vari-switch.
4. Remove the single (1) screw and two (2) nuts holding the switch to the select lever bracket.
5. Remove the switch.

CONTROL PANEL AND COMPONENTS REMOVAL

The complete control panel should be removed for replacement of the components. To remove the control panel, refer to Figure 7 and proceed as follows:

1. Disconnect the oven from the power supply and remove the outer case.
2. Discharge the high voltage capacitor.
3. Disconnect the 6-pin connector and following five (5) wire leads;
 - (1) Brown wire lead on the vari-switch.
 - (2) White wire lead on the cook switch.
 - (3) Red wire lead on the cook switch.
 - (4) Red and orange wire leads on the cook switch.
4. Remove the latch lever from the lock device. To remove it, first release the lower portion of the latch lever, refer to Figure 8, and then remove the latch lever from the lock device.
5. Remove the five (5) screws holding the control panel to the oven cavity face plate.
6. Pull the control panel assembly forward, and place it on a smooth surface.
7. Remove the knobs from timers and mode selector.
8. Remove the six (6) screws holding the control panel to the back plate.
9. Separate the back plate assembly from the panel.

Replacement of individual components is as follows:

COOK SWITCH

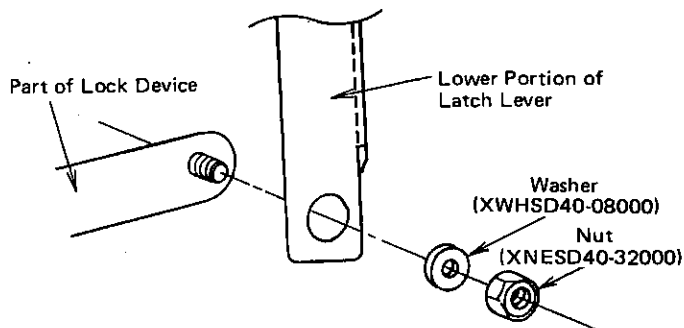
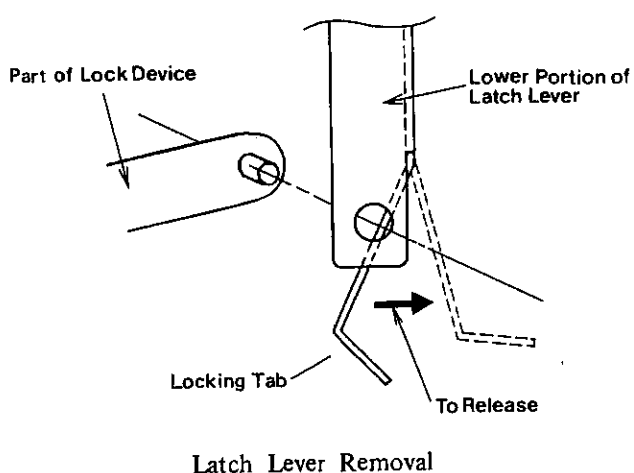
1. Disconnect the wire leads from the cook switch.
2. Remove the three (3) screws holding the cook switch assembly to the back plate.
3. Remove the cook switch assembly from the back plate.
4. Remove the two (2) screws holding the cook switch to the assembly.
5. Remove the cook switch.

MICROWAVE AND BROWNER TIMERS

1. Disconnect the wire leads from the timer.
2. Remove the timer gear stop ring and timer gear from the timer shaft.
3. Remove the three (3) screws holding the timer to the timer drum mounting bracket.
4. Remove the timer.

MICROWAVE AND BROWNER INDICATOR LIGHTS

1. Disconnect the light wire leads from the timer.
2. Remove the two (2) screws holding the light holder to the back plate.
3. Remove the light.



Note: If the lower portion locking tab of the latch lever is broken, connect the lock device and latch lever using a washer and nut.

Figure 8.

LATCH ASSEMBLY AND COMPONENTS REMOVAL

The latch assembly consists of the primary interlock switch, secondary interlock switch, latch hooks, levers, etc.

To remove the latch assembly refer to Figure 6 and proceed as follows;

1. Disconnect the oven from the power supply and remove the outer case.
2. Discharge the high voltage capacitor.
3. Disconnect the wire leads from the latch switch assembly.

4. Remove the two (2) screws holding the latch assembly to the mounting bracket.
5. Remove the latch lever from the lock device. (Refer to Figure 8.)
6. Release the two (2) wire holders from the wire harness.
7. Remove the latch assembly from the unit by moving it upward.

Replacement of individual component is as follows;

PRIMARY INTERLOCK SWITCH (UPPER LATCH SWITCH)

1. Remove the primary interlock switch from the upper latch hook by pushing the retaining tabs outward.

SECONDARY INTERLOCK SWITCH (LOWER LATCH SWITCH)

1. Remove the secondary interlock switch from the lower latch hook by pushing the retaining tabs outward.

Note: After any service to the latch assembly, make sure that the above switches are operating properly with reference to the Latch Assembly Adjustment and Microwave Measurement Procedure.

LATCH ASSEMBLY ADJUSTMENT

(PRIMARY AND SECONDARY INTERLOCK SWITCHES ADJUSTMENT)

The primary interlock switch and secondary interlock switch are fixed in position, therefore individual switch adjustment is not needed.

In case the switches do not operate properly due to a misadjustment, the entire latch assembly should be re-adjusted with the following manner.

1. Loosen the two (2) screws holding the latch assembly to the mounting bracket.
2. With the door closed, adjust the position of the latch assembly by moving it back and forward, or up and down. The in and out play of the door allowed by the upper and lower latch hooks should be less than 0.5 mm.

The vertical position of the latch assembly should be 14 mm distance between the upper portion of the lower latch hook arm slot and the center of hook lever pin with the door closed, Figure 9.

3. Secure the screws firmly.

After the adjustment, make sure of the following points:

1. The in and out play of the door remains less than 0.5 mm at latched position. First check the upper latch hook position, pushing and pulling the upper portion of the door toward the oven face. Then check the lower latch hook, pushing and pulling the lower portion of the door toward the oven face. Both results (play of the door) should be less than 0.5 mm.
2. The distance between the upper portion of the lower latch hook arm slot and the center of the hook lever pin should be 14 mm at latched position.
3. The primary and secondary interlock switches interrupt the circuit before the door can be opened.
4. Reinstall the outer case and check the microwave leakage around the door with an approved microwave survey meter.

(Refer to Microwave Measurement.)

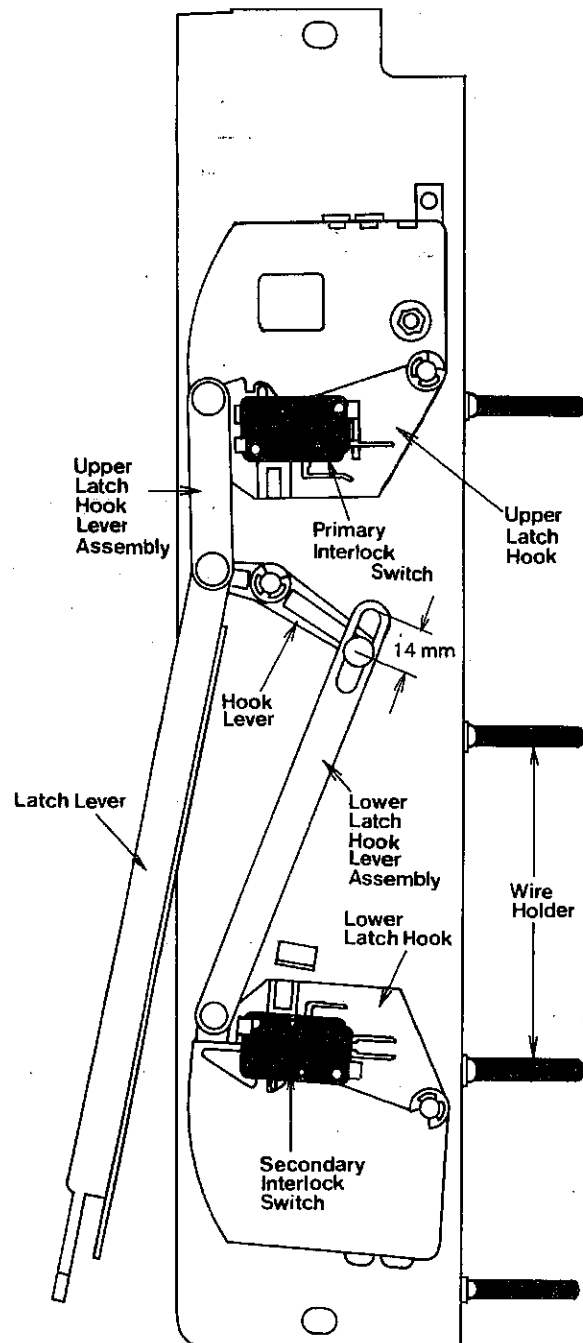


Figure 9. Latch Adjustment

DOOR REPLACEMENT AND ADJUSTMENT

DOOR REPLACEMENT

1. Disconnect the oven from the power supply and remove the outer case.
2. Remove the four (4) screws holding the door hinge to the oven face plate. The door assembly is now free from the unit.
3. On reinstalling new door assembly, secure the door assembly with the four (4) mounting screws to the oven face plate.

Making sure the door is parallel with the upper sash line, and the latch heads pass through the latch holes correctly.

Note: After any service to the door;

- (A) Make sure that the safety interlock switches (primary and secondary) are operating properly.
- (B) An approved microwave survey meter should be used to assure compliance with proper microwave radiation standards.

DOOR ADJUSTMENT

When moving and/or loosening the door assembly in such a case as door replacement, the following adjustment criteria should be taken.

The door should be adjusted to meet the following four conditions by keeping the hinge screws loose.

1. The door latch heads smoothly catch the latch hooks through the latch holes.
2. Deviation of the door alignment from the horizontal line of the upper sash is to be less than 1.0 mm.
3. The door is positioned with its face depressed toward the cavity face plate.
4. Reinstall the outer case, and check the microwave leakage around the door with an approved microwave survey meter.

(Refer to Microwave Measurement Procedure.)

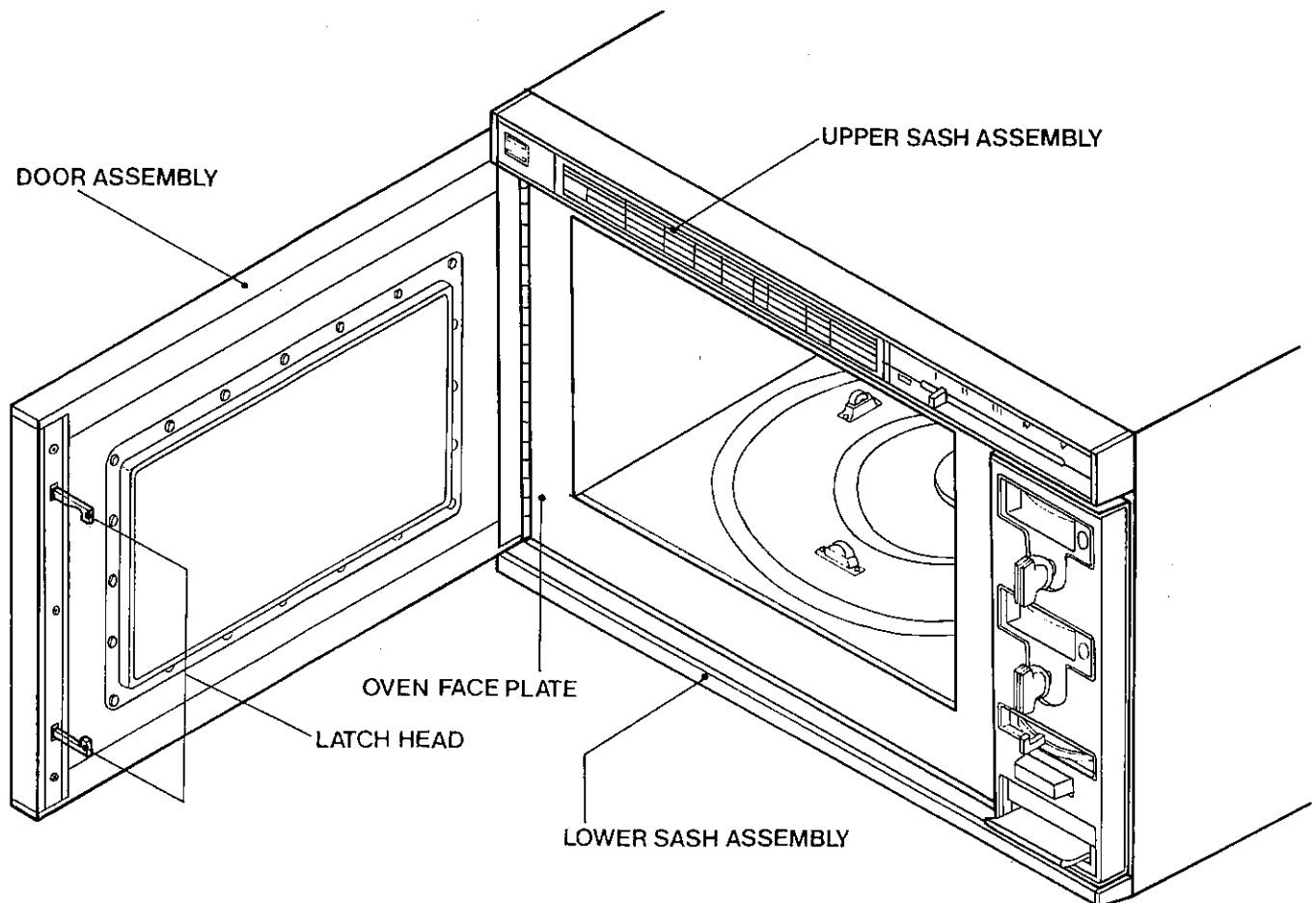


Figure 10. Door Replacement and Adjustment Procedure

SHEATH HEATER REPLACEMENT

SHEATH HEATER REMOVAL

To remove the heater element, refer to Figure 6 and proceed as follows:

1. Disconnect the oven from the power supply and remove the outer case.
2. Discharge the high voltage capacitor.
3. Remove the four (4) screws (and nuts) holding the heater spacer to the heater element.
4. Remove the related parts to the heater element in following manner. The following procedure describes one side only, and will have to be applied to both left and right sides for the removal of the heater.
 - (1) Remove the heater wire lead from the heater element by loosening the mounting screw and nut.
 - (2) Loosen the screw and nut holding the heater wire holder to the heater element.
 - (3) Remove the two (2) screws holding the cable holder to the heater choke assembly.
 - (4) Remove the six (6) screws holding the heater choke assembly to the oven cavity.
 - (5) Remove the heater wire holder and heater choke assembly from the heater element.
 - (6) The heater element is now removable.
5. Remove the heater element from the oven cavity. To remove it proceed as follows.

- (1) Keep the heater element at the lowest position.
- (2) Pick up the right side of the element toward upper right hand side corner of the cavity back wall, and remove the right side of the element from the cavity bracket.
- (3) Pull the right side of the element forward without making scratches on the cavity wall. Take it out of the oven cavity.
- (4) Remove the left side of element from the cavity. Now the heater element is free from the unit.

SHEATH HEATER REINSTALLATION

On reinstalling the heater element, follow the above procedures in reverse order.

Note, for smooth UP-DOWN operation:

- (1) Make sure that the heater element is shaped well before the installation. (Figure 12.)
- (2) Install the element carefully into the oven cavity without changing its shape.
- (3) Put the heater choke assembly in place and secure it to the cavity wall with the two (2) mounting screws. Then secure it to the cavity bracket with the four (4) mounting screws.
- (4) Secure the heater wire holder to the heater element where the holder is parallel to the cavity wall. (Figure 11.)

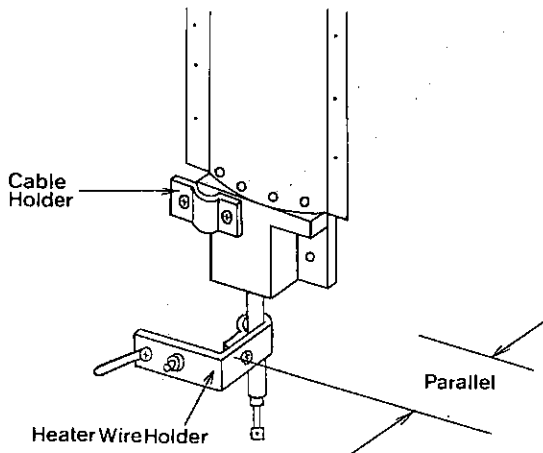


Figure 11. Sheath Heater Replacement

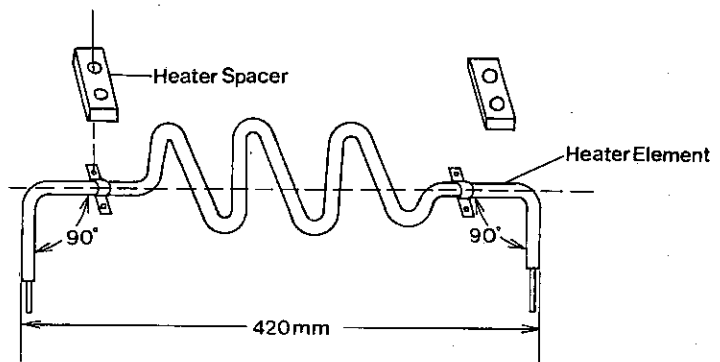


Figure 12. Heater Element

HEATER CABLE ADJUSTMENT

When the heater element is replaced or the heater control cables are adjusted, make sure of the following points for operating the heater position control smoothly.

1. With the heater control knob set at "I" position, the distance between the heater latch shaft and the open lever bracket should be 2.0 mm (Figure 13.)
2. With the knob set at "I" position, the distance between the heater choke assembly and the heater wire holder should be 4 ~ 5mm. (Figure 13-1.)
3. With the knob set at "V" position, the distance between the heater control cable (C) and the heater wire holder should be more than 1 mm. (Figure 13-2.)
4. The heater control cable (A) should be secured at the position where the distance between the cable holder and cable guide is 0 ~ 1 mm. (Figure 13-1.)
5. The heater control cable (C) should be stretched loosely. (Figure 13-3)
6. The heater control cables (C) should be placed as shown in Figure 13-3.

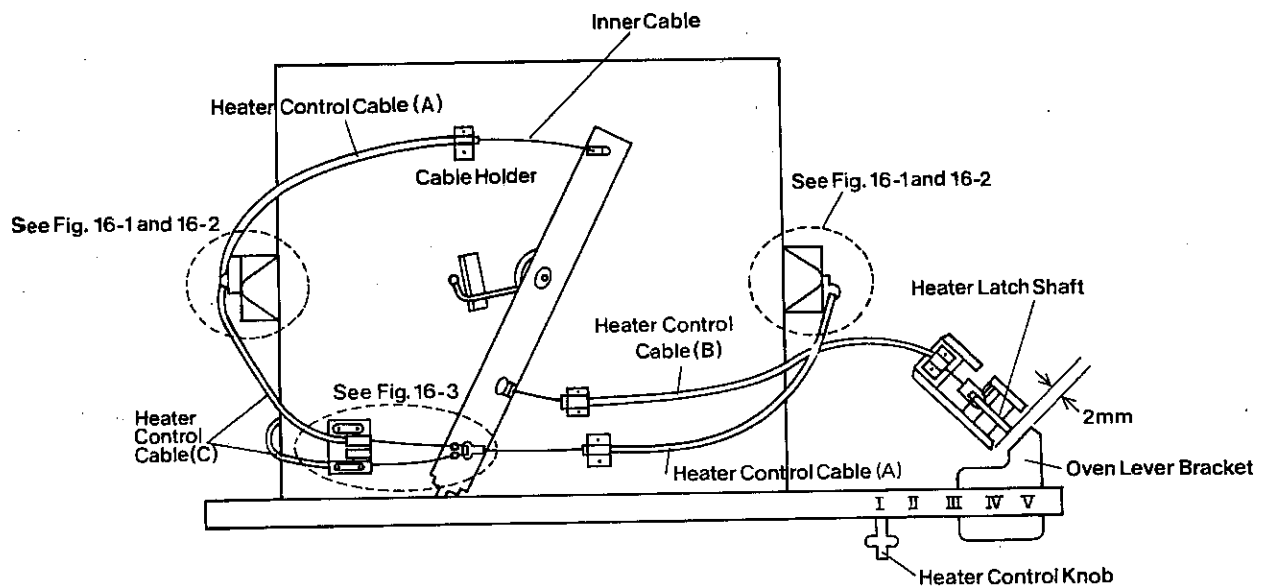


Figure 13. Heater Cable Adjustment

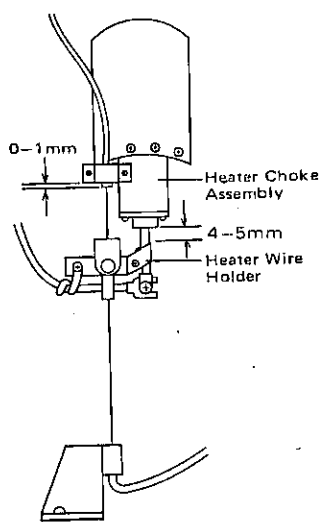


Figure 13-1 Heater Position "I"

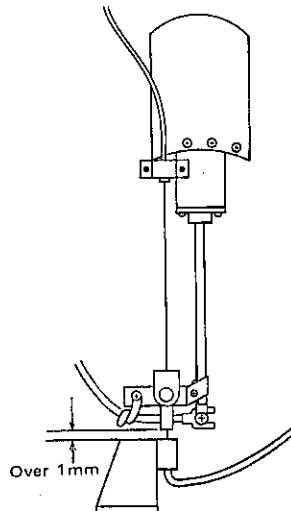


Figure 13-2 Heater Position "V"

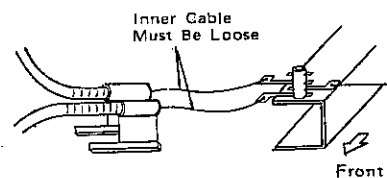
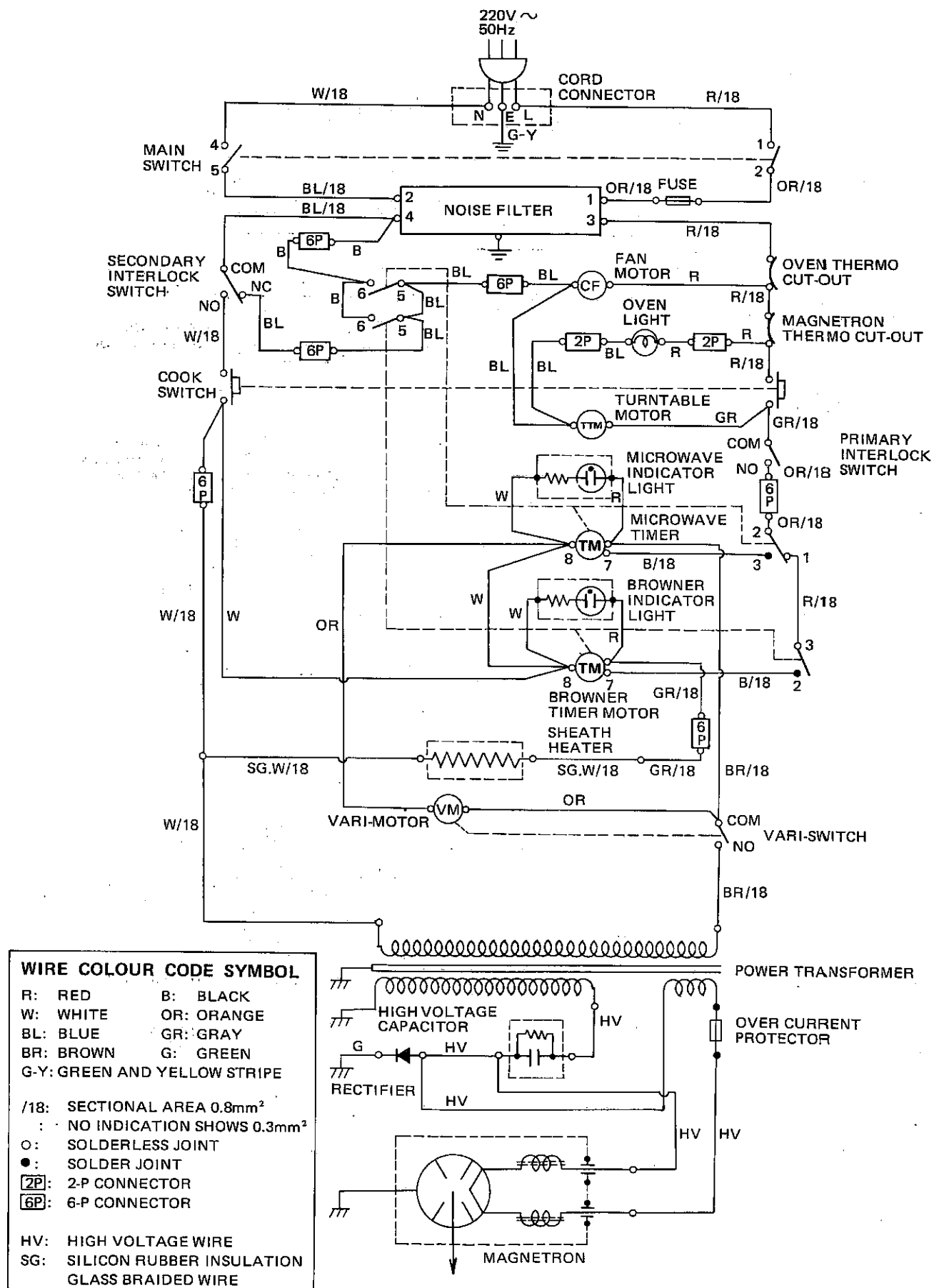


Figure 13-3



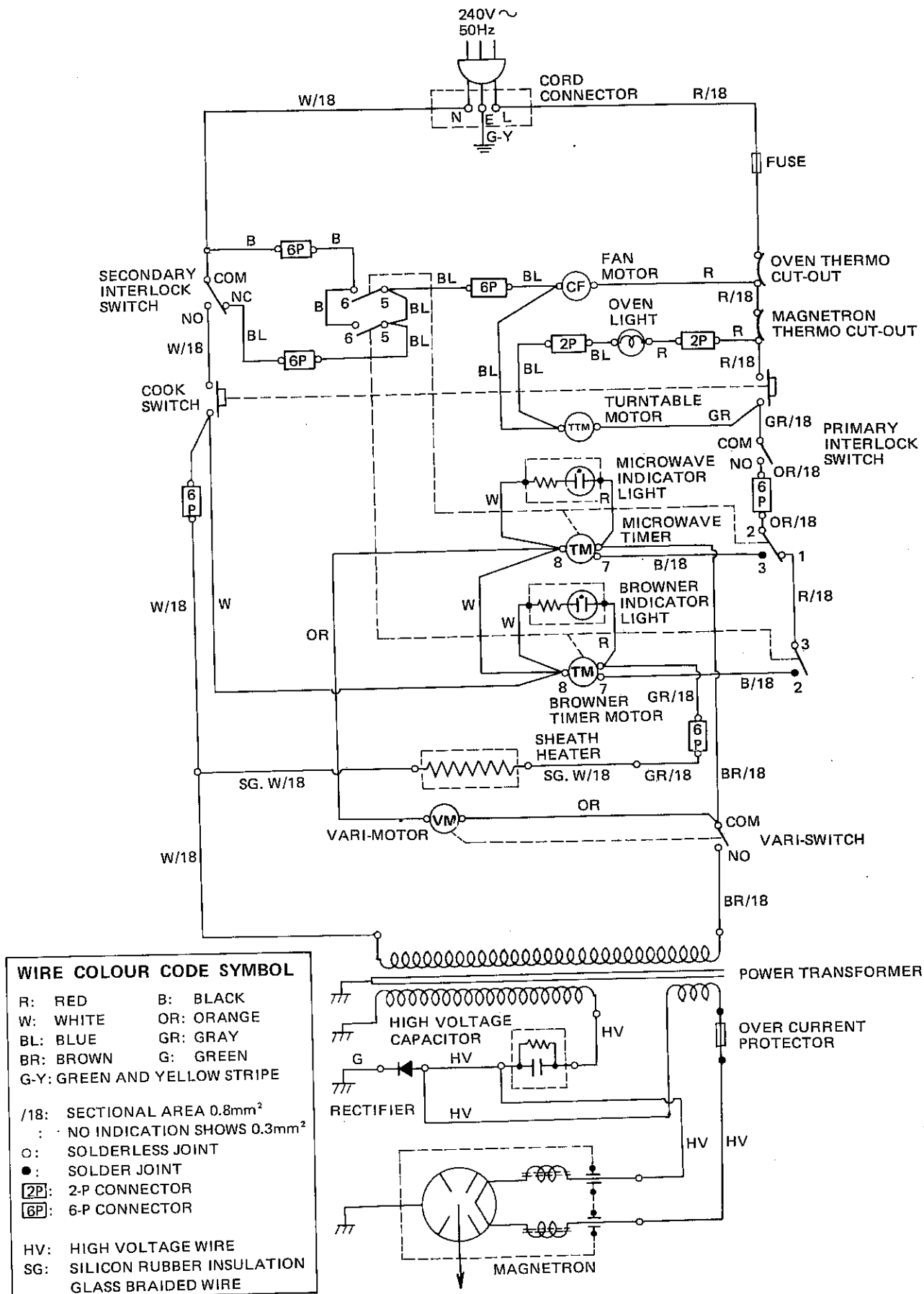


Figure 16. Schematic Diagram (Australian and U.K. Models)

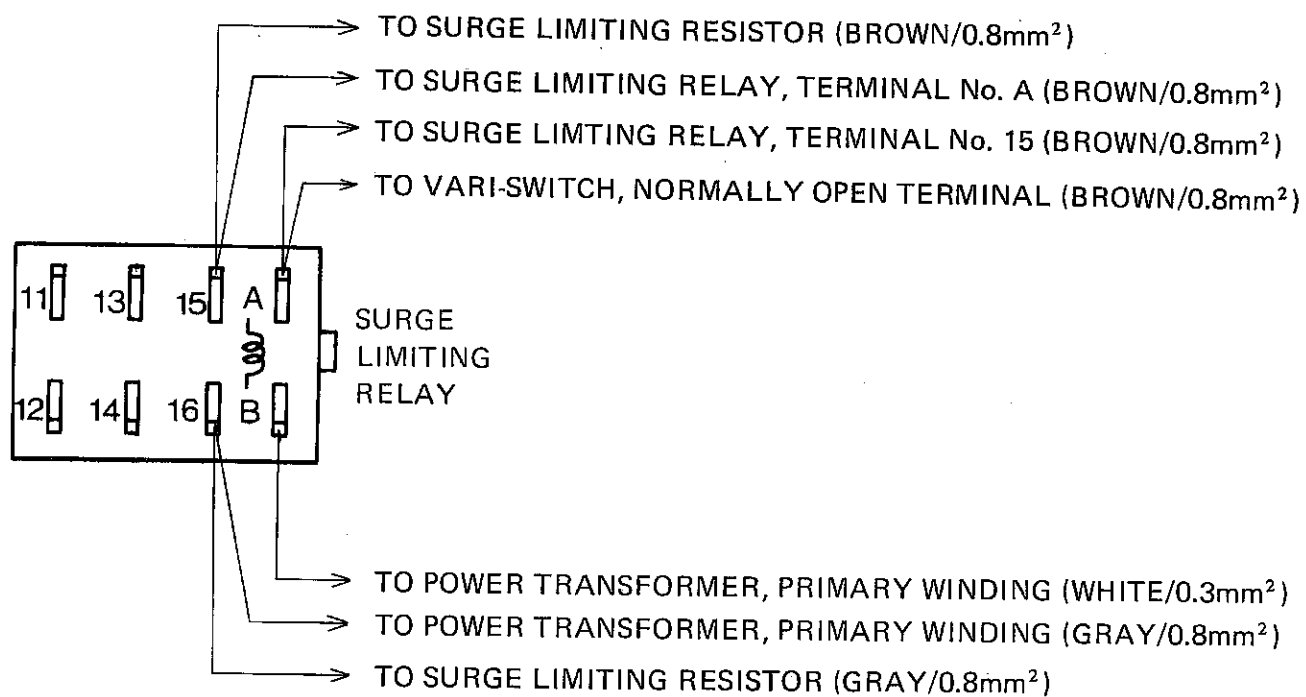


Figure 17. Relay Connections (Continental Europe Model)

PARTS LIST

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
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CONTROL PANEL PARTS

1	DPNLC0141WRK0	Control panel assembly, complete (Continental Europe and South Africa)	1	BY
	DPNLC0142WRK0	(United Kingdom)	1	BY
	DPNLC0143WRK0	(Australia)	1	BY
1--1	FPNLC0125WRK0	Front panel assembly	1	AX
1--1A	HDECA0186YBEA	Decoration panel	1	AR
1--1B	HPNLC0062YBVA	Control panel	1	AP
1--1C	HDECQ0031YBFA	Timer plate	2	AE
1--1D	HINDP0021YBFA	Cook indicator, browner	1	AA
1--1E	HINDP0021YBFC	Cook indicator, microwave	1	AA
1--1F	GCOVA0020YBP0	Mode select cover	1	AA
1--1G	PCUSU0174YBP0	Control panel cushion	4	AA
1--2	LCHSM0026YBW0	Control back plate	1	AL
1--3	PCUSU0187YBP0	Shielding cushion	1	AA
1--4	FKNBK0019YBK0	Timer knob assembly	2	AF
1--5	FSW-P0032WRK0	Cook switch assembly	1	AY
1--5A	QSW-P0003YBEO	Cook switch	1	AX
1--5B	MLEVF0054YBEO	Lock device	1	AM
1--6	QSWTE0077WREO	Timer, microwave (220V)	1	BD
	QSWTE0078WREO	Timer, microwave (240V)	1	BE
1--7	QSWTE0079WREO	Timer, browner (220V)	1	BC
	QSWTE0080WREO	Timer, browner (240V)	1	BC
1--8	RLMPE0062WREO	Indicator light, microwave	1	AL
1--9	RLMPE0063WREO	Indicator light, browner	1	AK
1-10	JKNBK0062WRFA	Mode select knob	1	AB
1-11	JBTN-0064WRFA	Cook button	1	AC
1-12	LANGH0054YBW0	Cook button supporting plate	1	AB
1-13	MLEVP0017WRFA	Open lever	1	AD
1-14	MLEVF0036YBW0	Open lever bracket	1	AE
1-15	MSPRD0010YBEO	Open lever spring	1	AD
1-16	MROD-0009YBMO	Open lever shaft	1	AC
1-17	LHLDP0006YBFO	Indicator light holder	2	AD
1-18	PZETB0012YBP0	Indicator light insulator	2	AB
1-19	FANGT0041YBMO	Timer drum mounting bracket	2	AG
1-20	PCOVPO071YBW0	Timer drum cover	2	AC
1-21	NGERK0002YBFO	Drum gear	2	AD
1-22	HDALP0017WRR0	Timer scale, microwave	1	AK
1-23	HDALP0004YBRA	Timer scale, browner	1	AH
1-24	NGERK0001YBFO	Timer gear	2	AC
1-25	MSPRP0044YBEO	Timer gear stop ring	2	AB
1-26	CLEVF0032WRK0	Mode select lever assembly, complete	1	BB
1-26A	DLEVF0006YBY0	Select lever bracket	1	AK
1-26B	MSPRP0042YBEO	Knotch spring	1	AB
1-26C	NBALS0001YBMO	Knotch ball	1	AB
1-26D	NGERH0021YBFO	Select gear	1	AD
1-26E	MLEVF0048YBW0	Cam lever	1	AC
1-26F	MSPRD0014YBEO	Cam lever spring	1	AB
1-26G	NROLM0004YBW0	Knotch roller	7	AB

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
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CONTROL PANEL PARTS (CONT'D)

1-26H	QSW-M0071YBE0	Vari-switch	1	AK
1-26I	RMOTD0047WRE0	Vari-motor	1	AY

DOOR PARTS

2	FDORF0093WRK0	Door assembly, complete	1	BW
2--1	GDORF0045YBM0	Door base	1	AT
2--2	PSLDM0129YBTA	Seal plate	1	AS
2--3	PSLDM0130YBAA	Screen mesh	1	AS
2--4	PGLSP0013YBE0	Inside glass window	1	AS
2--5	PPACG0057YBFA	Inside window gasket	1	AP
2--6	PCUSU0159YBP0	Outer window cushion (long)	2	AA
2--7	PCUSU0160YBP0	Outer window cushion (short)	2	AA
2--8	LFIX-0048YBW0	Window holder	1	AE
2--9	LCHK-0021YBF0	Choke cover (short)	2	AH
2-10	LCHK-0022YBF0	Choke cover (long)	2	AK
2-11	PSLDM0131YBE0	Door ferrite sealer	1	AH
2-12	GCOVH0042YBFA	Door ferrite cover	1	AG
2-13	HDECC0060YBTA	Door sash, upper	1	AW
2-14	HDECC0061YBTA	Door sash, lower	1	AV
2-15	HDECC0059YBTA	Door sash, right	1	AW
2-16	HDECQ0047YBFA	Handle cover	1	AH
2-17	FDECC0028YBK0	Door sash left assembly	1	AY
2-18	PGLSP0014YBE0	Outer window	1	AX
2-19	PCOVPO082YBF0	Outer window cover (long)	2	AD
2-20	PCOVPO083YBF0	Outer window cover (short)	2	AD
2-21	HDECA0185YBTA	Door decoration panel	1	AS
2-22	FSTPC0002YBM0	Door latch plate	1	AL
2-23	LX-BZ0086YBE0	Screw (Door ferrite cover fitting)	3	AA
2-24	PCUSG0134WRP0	Door base cushion	2	AB

OVEN PARTS

3--1	DOVN-0060YBK0	Oven cavity assembly	1	BT
3--1A	FROLM0001YBY0	Turntable roller assembly	3	AG
3--1B	LSUB-0053YBW0	Cavity supporting plate, bottom	1	AE
3--1C	LX-BZ0061YBE0	Screw (Turntable roller mounting)	6	AA
3--2	NTNT-0013YBBA	Turntable tray	1	BE
3--3	FREFH0017WRK0	Heater reflecting plate assembly	1	AR
3--3A	PCUSG0056YBFA	Heatproof cushion	4	AB
3--3B	PREFH0017WRHA	Heater reflecting plate	1	AQ
3--4	PGISH0006YBB0	Heater spacer	2	AK
3--5	FCPL-0001YBK0	Turntable coupling assembly	1	AV
3--6	PSPAG0004YBF0	Turntable motor spacer	1	AA
3--7	LANGQ0123YBW0	Turntable motor mounting bracket	1	AC
3--8	PCUSG0005YBP0	Turntable motor cushion	1	AB
3--9	PCUSG0020YBF0	Rubber bushing	4	AA
3-10	LANGT0107YBW0	Hinge mounting plate	1	AC

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
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OVEN PARTS (CONT'D)

3-11	FFLG-0016YBYO	Waveguide flange	1	AG
3-12	PCOVPO084YBP0	Waveguide cover	1	AG
3-13	FANGQ0069WRYO	Oven light mounting bracket	1	AF
3-14	LX-NZ0050WREO	Sack nut(heater spacer mounting, right side only)	2	AA
3-15	PGLSP0015YBEO	Oven light screen glass	1	AF
3-16	FSW-M0062WRKO	Latch assembly, complete	1	AX
3-16A	FANGT0042YBYO	Latch assembly mounting plate	1	AH
3-16B	FLEVFO017YBYO	Upper latch hook lever assembly	1	AC
3-16C	FLEVFO020YBYO	Lower latch hook lever assembly	1	AC
3-16D	LANGK0069YBFO	Upper latch hook	1	AE
3-16E	LANGK0070YBFO	Lower latch hook	1	AE
3-16F	LANGT0121YBWO	Hook spring mounting plate	2	AA
3-16G	MBARM0002YBWO	Latch lever	1	AC
3-16H	MLEVPO008YBFO	Hook lever	1	AC
3-16I	MROD-0024YBEO	Hook lever shaft	1	AA
3-16J	MSPRP0046YBEO	Hook spring	2	AC
3-16K	XRES030-06000	E-ring (3 mm)	4	AA
3-16L	XRES040-06000	E-ring (4 mm)	3	AA
3-16M	QSW-M0072YBEO	Primary interlock switch (upper latch switch)	1	AK
3-16N	QSW-M0073YBEO	Secondary interlock switch (lower latch switch)	1	AK
3-17	FWAG-0001YBAO	Waveguide	1	AR
3-18	LANGT0114YBWO	Fan motor mounting bracket	1	AK
3-19	NFANJ0001YBFO	Fan blade	1	AF
3-20	MSPRP0038YBEO	Fan retainer clip	1	AB
3-21	RMOTE0092WREO	Fan motor	1	AY
3-22	PDUC-0112YBWO	Magnetron cooling duct (A)	1	AF
3-23	FDUC-0057YBK0	Magnetron cooling duct (B)	1	AF
3-23A	PCUSU0186YBP0	Cooling duct cushion (B-1)	1	AA
3-23B	PCUSU0185YBP0	Cooling duct cushion (B-2)	1	AA
3-24	PSKR-0003YBWO	Magnetron cooling duct (C)	1	AB
3-25	PSKR-0001YBWO	Magnetron cooling duct (D)	1	AD
3-26	PSKR-0017WRWO	Magnetron cooling duct (E)	1	AC
3-27	FANGF0034YBYO	Chassis support (left)	1	AG
3-28	LANGF0128YBWO	Chassis support (right)	1	AF
3-29	PCUSU0132YBP0	Cooling duct cushion (A-1)	1	AA
3-30	PCUSU0133YBP0	Cooling duct cushion (A-2)	1	AA
3-31	PCUSU0134YBP0	Cooling duct cushion (B)	1	AA
3-32	PCUSU0036YBP0	Chassis support cushion	1	AA
3-33	CDUC-0003YBK0	Steam duct assembly	1	AU
3-33A	PCUSG0049YBP0	Steam duct cushion (A)	1	AA
3-33B	PCUSG0050YBP0	Steam duct cushion (B)	1	AB
3-33C	PCUSG0051YBP0	Steam duct cushion (C)	1	AC
3-33D	PCUSG0062YBP0	Steam duct cushion (D)	2	AA
3-34	FDUC-0059YBMO	Oven duct	1	AH
3-35	PCUSU0161YBP0	Oven duct cushion	2	AC
3-36	PCUSG0066YBP0	Waterproof cushion	1	AB

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
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OVEN PARTS (CONT'D)

3-37	FLEVF0016YBYO	Heater control lever (B)	1	AG
3-38	FSPRP0003YBYO	Heater knotch spring	1	AH
3-39	MSPRD0011YBEO	Heater control lever spring	1	AC
3-40	FCHK-0018WRKO	Heater choke assembly	2	AT
3-40A	LCHK-0019YBMO	Heater choke	2	AN
3-40B	PFTA-0004YBW0	Heater choke cap (inside)	2	AB
3-40C	PPIPP0018WR10	Heater wire pipe	2	AL
3-41	FBNDK0001YBYO	Heater wire holder	2	AC
3-42	FANGF0047WRKO	Heater latch assembly (Continental Europe and South Africa)	1	AS
3-42A	FANGF0048WBK0	(United Kingdom and Australia)	1	AS
	LANGF0197WRW0	Heater latch bracket (Continental Europe and South Africa)	1	AG
3-42B	LANGF0152YBW0	(United Kingdom and Australia)	1	AF
	LHLD-0003YBW0	Cable holder (same as 3-49)	1	AB
3-42C	MSPRC0020YBEO	Heater latch pin spring	1	AA
3-42D	NSFTT0033YBMO	Heater latch pin	1	AC
3-42E	PWIR-0004YBEO	Heater latch cable	1	AN
3-42F	XRES50-06000	E-ring (5 mm)	1	AA
3-42G	XPNSD60---000	Snap pin	1	AA
3-43	MARMM0008YBMO	Joint lever	1	AB
3-44	PWIR-0001YBEO	Heater control cable (A)	1	AS
3-45	PWIR-0002YBEO	Heater control cable (B)	1	AU
3-46	PWIR-0003YBEO	Heater control cable (C)	2	AN
3-47	LANGK0077YBW0	Cable supporting bracket (B)	1	AC
3-48	LANGK0078YBW0	Cable supporting bracket (A)	2	AC
3-49	LHLD-0003YBW0	Cable holder (same as 3-42B)	5	AB
3-50	PCUSU0184YBP0	Magnetron cushion	1	AA
3-51	FV-MZ0041YBK0	Magnetron	1	BV
3-51A	PGSK-0007YBEO	Magnetron gasket	1	AF
3-51B	PCOVW0017WRE0	Magnetron terminal cover	1	AB
3-52	RTHM-Q001YBEO	Thermo cut-out	2	AN
3-53	LX-NZ0024YBEO	Nut (oven thermo cut-out mounting)	2	AA
3-54	DDEC-0002WRKO	Upper sash assembly, complete	1	BG
3-54A	HDECC0077WRAA	Upper sash	1	AX
3-54B	GCOVA0055YBMA	Corner cap, upper (left)	1	AE
3-54C	GCOVA0046YBMA	Corner cap, upper (right)	1	AF
3-54D	HDECP0032WRAA	Sash plate	1	AT
3-54E	PFLT-0001YBP0	Sash plate cover	1	AB
3-54F	MSLIF0001YBW0	Heater control lever (A)	1	AF
3-54G	LBSh-0001YBF0	Lever receptacle	1	AB
3-54H	JBTN-0028YBVA	Heater control knob	1	AF
3-54I	PSLDM0132YBEO	Sash ferrite (same as 4-21B)	1	AP
3-54J	GCOVH0043YBFA	Sash ferrite cover (same as 4-21C)	1	AE
3-54K	PSPA-0026YBF0	Control lever guide	4	AC
3-54L	LSUB-0054YBW0	Control lever stopper (right)	1	AB
3-54M	LSUB-0057YBW0	Control lever stopper (left)	1	AB
3-54N	PCUSU0158YBP0	Control lever stopper cushion	2	AA
3-54O	LX-NZ0012YBEO	Speed nut (4 mm)	2	AA

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
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OVEN PARTS (CONT'D)

3-54P	PCUSG0048YBP0	Ferrite stopper cushion (same as 4-21F)	1	AA
3-55	LX-BZ0052YBE0	Screw (turntable motor mounting)	4	AA
3-56	LX-BZ0073YBE0	Rectangular head screw (upper sash mounting)	3	AA
3-57	LX-BZ0076YBE0	Screw (heater spacer mounting)	4	AA
3-58	LX-BZ0078YBE0	Screw (latch assembly mounting)	2	AA
3-59	LX-BZ0079YBE0	Screw (heater choke mounting)	8	AA
3-60	PSPA-0062WRP0	Oven thermo cut-out spacer	1	AC
3-61	RHET-0017WRE0	Sheath heater (220 V)	1	BK
	RHET-0018WRE0	Sheath heater (240 V)	1	BK
3-62	RLMPT0007YBE0	Oven light	1	AP
3-63	QSOCL0047WRE0	Oven light socket	1	AK
3-64	RMOTE0081YBE0	Turntable motor	1	BC
3-65	HPNL-0002WRP0	Menu plate (German) (Continental Europe only)	1	AG
3-66	HPNL-0003WRP0	Menu plate (French) (Continental Europe only)	1	AG

CABINET PARTS

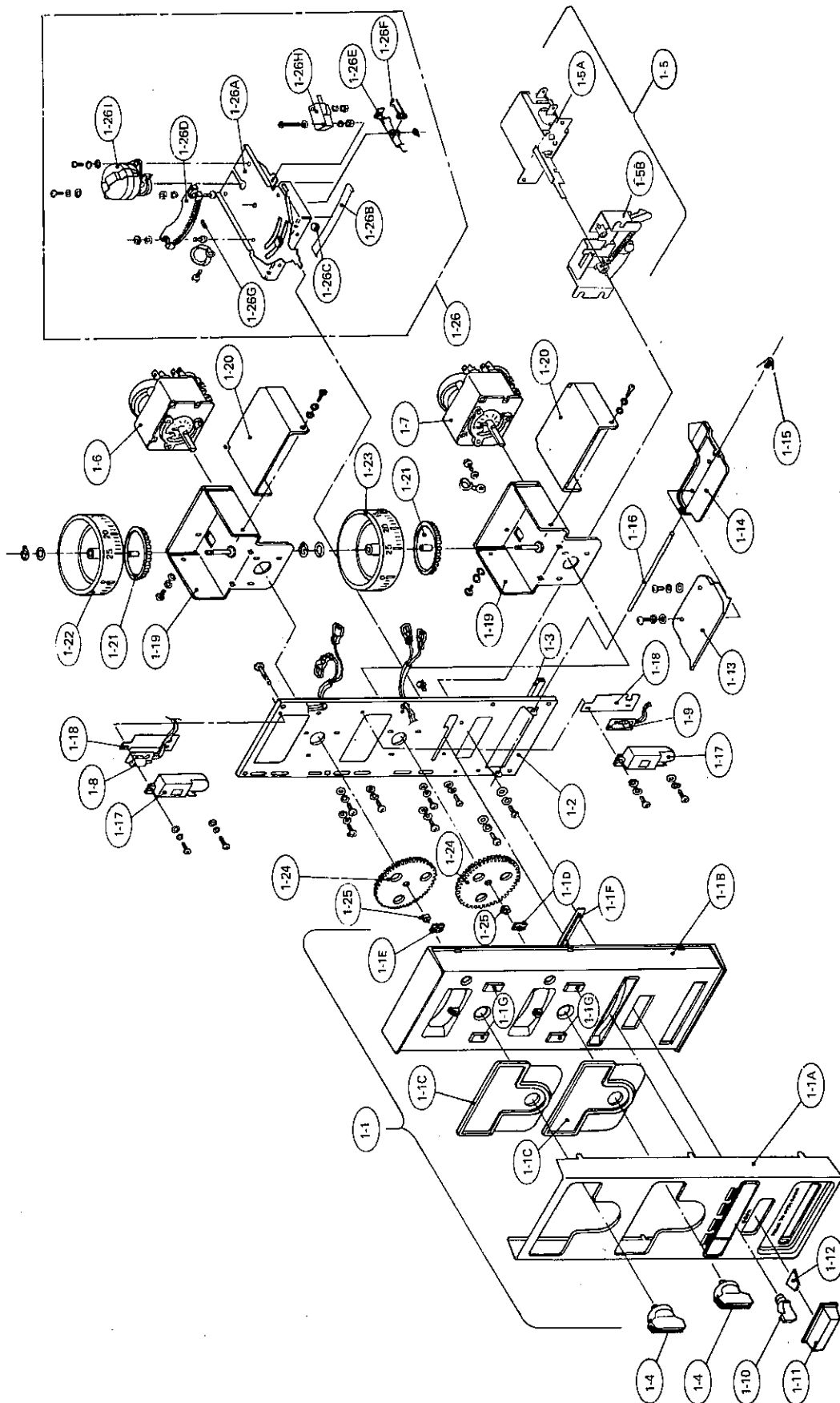
4--1	FDAI-0109WRTA	Cabinet base assembly (Continental Europe and South Africa)	1	BF
	FDAI-0110WRTA	(United Kingdom and Australia)	1	BF
4--2	GLEGPO007YBEA	Foot	4	AB
4--3	LANGQ0183WRW0	Power supply cord mounting bracket	1	AE
4--4	QACCV0018WRE0	Power supply cord (Continental Europe)	1	AU
	FACC-0017WRK0	Power supply cord (South Africa)	1	AY
	FACCB0017WRK0	Power supply cord (United Kingdom)	1	AW
	QACCA0018WRE0	Power supply cord (Australia)	1	AU
4--5	LBSHC0032WRE0	Cord bushing	1	AD
4--6	QTANN0013YBE0	Cord connector	1	AH
4--7	LSTPP0008YBF0	Cord stopper (upper)	1	AC
4--8	LSTPP0009YBF0	Cord stopper (lower)	1	AC
4--9	LHLDK0005YBFA	Cord holder	1	AB
4-10	LANGF0153YBW0	Cavity supporting plate (upper left)	1	AC
4-11	FWAKM0014WRY0	Turntable motor cover	1	AP
4-12	LBNDK0013YBW0	Capacitor holder	1	AD
4-13	RH-DZ0018YBE0	Silicon rectifier	1	AU
4-14	GCABU0048WRTA	Outer case cabinet	1	BC
4-15	FFTAS0004YBK0	Light access cover assembly	1	AM
4-15A	FFTAS0005YBK0	Light access cover	1	AG
4-15B	LX-BZ0034YBM0	Coin screw	1	AB
4-15C	PSPANQ002YBP0	Coin screw spacer	1	AA
4-15D	XRES20-04000	E-ring (2 mm)	1	AA

REF. NO.	PART NO.	DESCRIPTION	Q'TY	CODE
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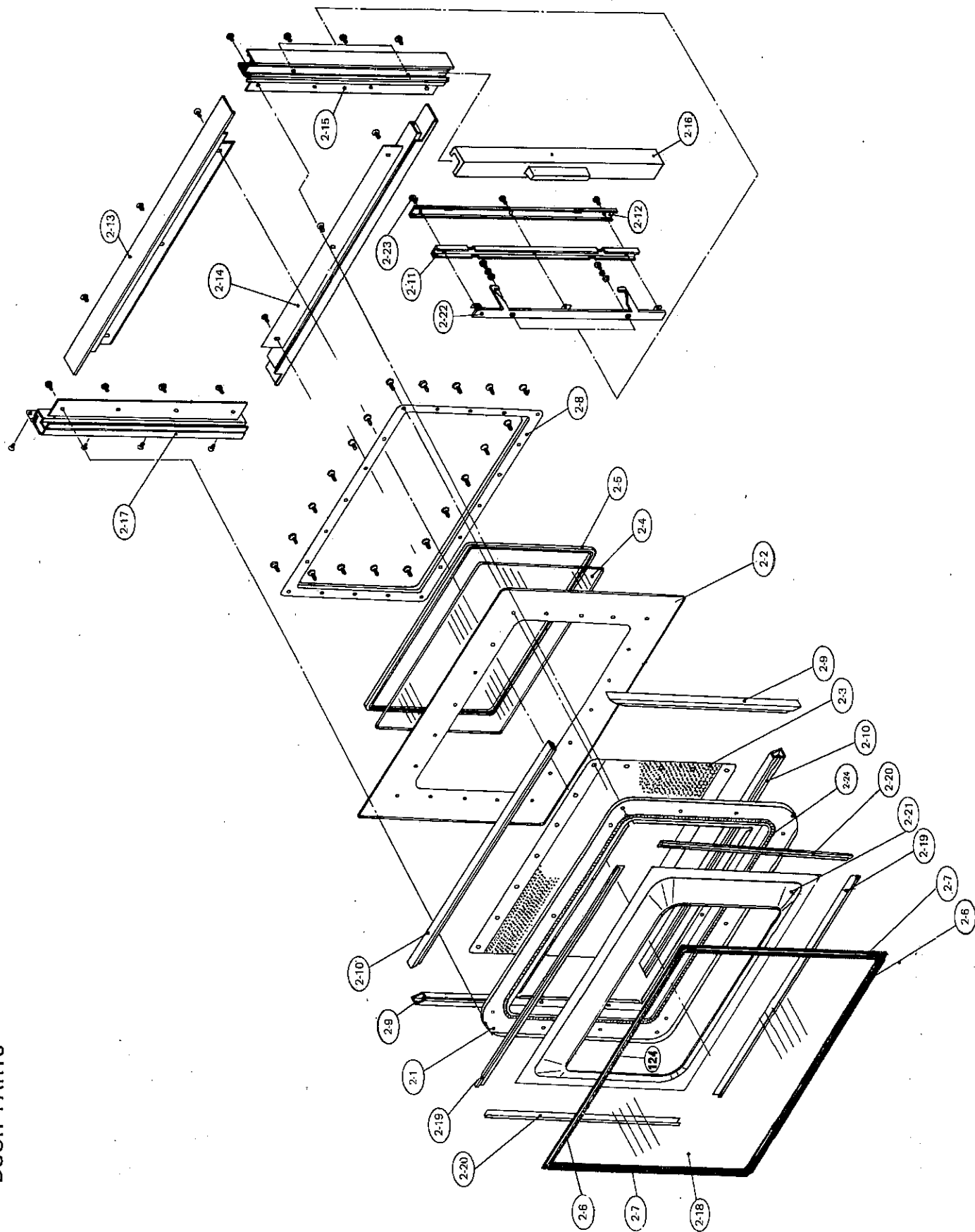
CABINET PARTS (CONT'D)

4-15E	PCUSUQ035YBEO	Light access cover cushion (long)	2	AA
4-16	PCUSUQ019YBEO	Light access cover cushion (short)	1	AA
4-17	LX-NZ0005YBEO	Speed nut (3 mm)	1	AA
4-18	LX-NZ0013YBEO	Stop ring	1	AA
4-19	NSFTT0026YBEO	Cover hinge shaft	1	AB
4-20	PCUSG0065YBP0	Outer case cabinet cushion	1	AA
4-21	FDEC-0016YBK0	Lower sash assembly, complete	1	AY
4-21A	HDECC0062YBAA	Lower sash	1	AU
4-21B	PSLDM0132YBEO	Sash ferrite (sama as 3-54I)	1	AP
4-21C	GCOVH0043YBFA	Sash ferrite cover (same as 3-54J)	1	AE
4-21D	GCOVA0047YBMA	Corner cap, lower (left)	1	AE
4-21E	GCOVA0048YBMA	Corner cap, lower (right)	1	AE
4-21F	PCUSG0048YBP0	Ferrite cushion (same as 3-54P)	1	AA
4-21G	LX-NZ0031YBEO	Speed nut (3 mm)	2	AA
4-22	PCUSG0123WRP0	High voltage transformer cushion	1	AC
4-23	PCUSG0063YBP0	Base cabinet cushion (left)	1	AA
4-24	PCUSG0064YBP0	Base cabinet cushion (right)	1	AA
4-25	QTANP0048WREO	Tab terminal	1	AG
4-26	PSLDP0008YBP0	Base cabinet side cushion	1	AA
4-27	PSPA-0044YBFA	Sash spacer	1	AC
4-28	QFS-CQ001YBEO	Fuse (10 A)	1	AE
4-29	RC-PZ0032YBEO	High voltage capacitor	1	BC
4-30	RTRN-0123WREO	Power transformer (220 V)	1	BW
	RTRN-0124WREO	Power transformer (240 V)	1	BW
4-31	PCAS-0017WRFA	Plug protection case	1	AE
4-32	QSW-C0004YBEO	Main switch (0-1 switch) (Continental Europe and south Africa only)	1	AT
4-33	RR-WZ0001YBEO	Surge limiting resistor (Continental Europe only)	1	AK
4-34	QFSHDQ001YBEO	Fuse holder	1	AH
4-35	LCHSM0047WRWO	Relay board (Continental Europe only)	1	AF
4-36	LANGQ0138YBWO	Noise filter mounting bracket (South Africa only)	1	AC
4-37	RRLY-0057YBEO	Surge limiting relay (Continental Europe only)	1	AZ
4-38	RFILN0017WREO	Noise filter (Continental Europe and South Africa only)	1	BA
4-39	LX-WZ0034WREO	Cabinet earth washer	2	AA
4-40	LX-WZ0013YBEO	Noise filter earth washer (Continental Europe and South Africa only)	1	AA

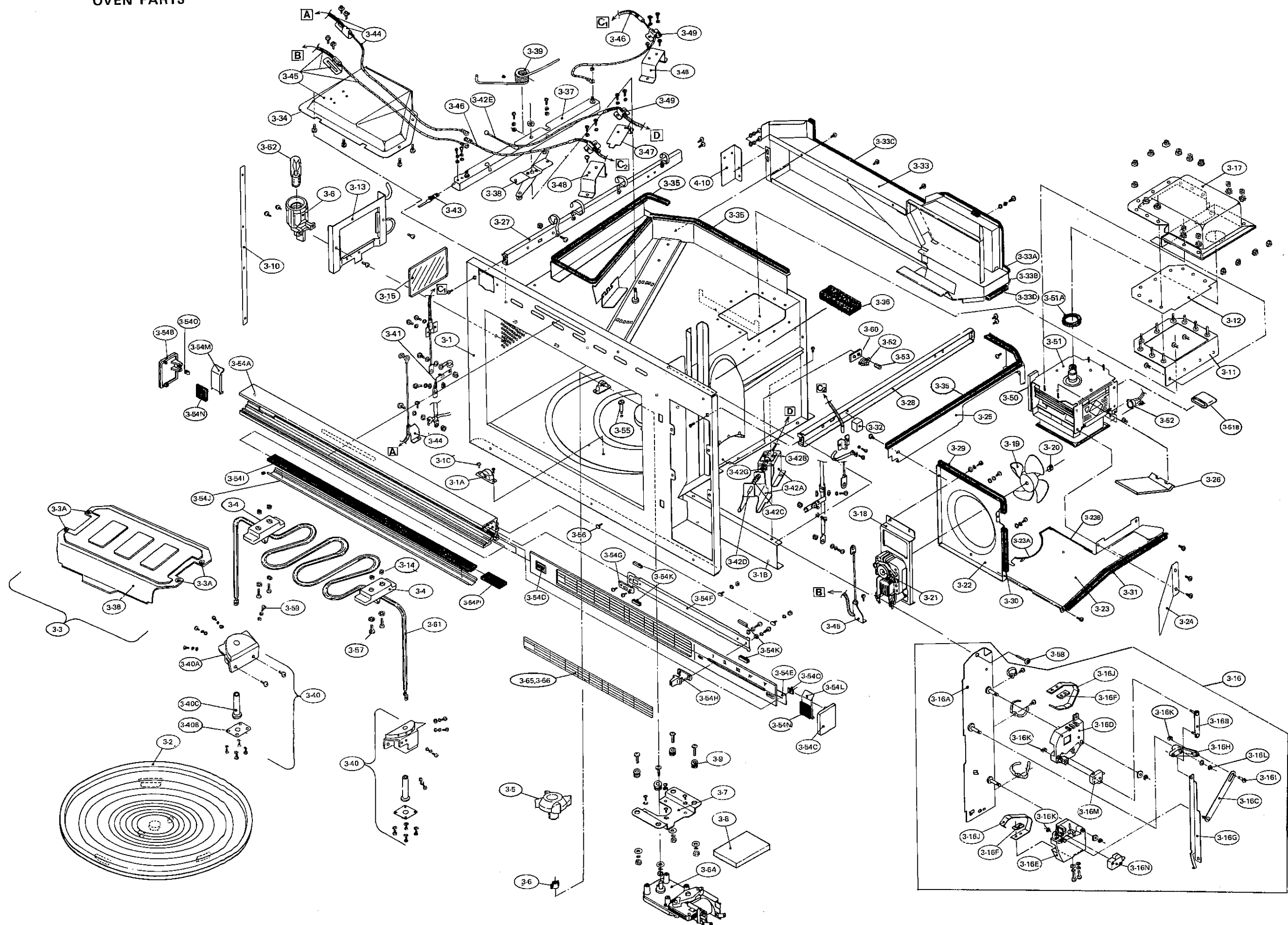
CONTROL PANEL PARTS



DOOR PARTS



OVEN PARTS



CABINET PARTS

